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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,066	03/17/2001	Behrang Behin	ONX-108/CIP	9000
27652	7590	02/28/2005	EXAMINER	
JOSHUA D. ISENBERG 204 CASTRO LANE FREMONT, CA 94539			MACK, RICKY LEVERN	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,066

Applicant(s)

BEHIN ET AL.

Examiner

Ricky L. Mack

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-41, 48-54, 56, 57, 59-66, 70-75, 78-100, 118 and 119 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 48-54, 56, 57, 59-64, 66 and 118 is/are allowed.
- 6) ☒ Claim(s) 14-41, 70, 74, 78-80, 83, 84, 86-88 and 91 is/are rejected.
- 7) ☒ Claim(s) 81, 82, 85, 89, 90, 92-100 and 119 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: Detailed Action.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claim 14 is withdrawn in view of the newly discovered reference(s) to Ma (6567574). Rejections based on the newly cited reference(s) follow.
2. Applicant's deletion of the limitation of interoperability renders the scope of the claim broader and thus previously a cited reference by applicant (Solgaard et al. 6097859) is applied.

Claim Objections

3. Claim 14 is objected to because of the following informalities: In claim 14, line 4, the phrase "the first and second deflector arrays" is objected to for not being established by antecedent. Since these structures are disclosed and the context is understood, correction in the form of an insertion establishing antecedent or "a first and second deflector array" would overcome the objection. Appropriate correction is required.
4. Claim 48 is objected to because of the following informalities: Claim 14 ends with "or wherein".

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 14-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Claim 14 recites the limitation " the first and second deflector arrays" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 15-41 are rejected based upon their dependence from claim 14 since claims 15-41 inherit the above insufficient antecedent.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Solgaard et al. (6097859).

Solgaard discloses, as in claim 14, a beam steering module comprising: one or more beam steering elements (18a, 18b, 18c), wherein the one or more beam steering elements deflect one or more optical signals in two dimensions (see figure 2, reflection from 46a, 46b, 46c (*1st dimension*); and 46d, 46e, 46f (*2nd dimension*)), wherein one or more of the first (46a, 46b, 46c) and second deflector (46d, 46e, 46f) arrays includes an LxM array of deflectors, where L and M are integers greater than or equal to one wherein N first and second deflector arrays are stacked to form an NxLxM beam steering module (see figure 1, module being 18a, 18b and 18c MEMS), where N is an integer greater than or equal to 1.

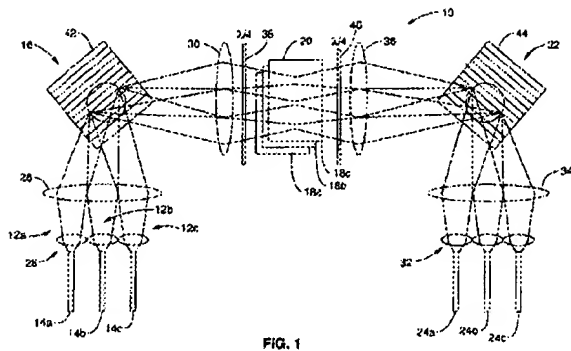


FIG. 1

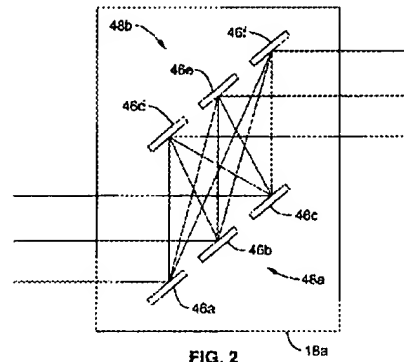


FIG. 2

10. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Ma (6567574).

Ma discloses, as in claim 14, a beam steering module (see figures 2 & 3A) comprising: one or more beam steering elements (figure 3A), wherein the one or more beam steering elements (102A, 102B, 104A, 104B or 104C) deflect one or more optical signals in two dimensions (see figure 3, reflection from 114 or 126 (*1st dimension*); and reflection from 116 or 124 (*2nd dimension*)), wherein one or more of the first (114 or 126) and second deflector (116 or 124) arrays includes an LxM array of deflectors, where L and M are integers greater than or equal to one wherein N first and second deflector arrays are stacked to form an NxLxM beam steering module (see figure 3, 102A, 102B...), where N is an integer greater than or equal to 1.

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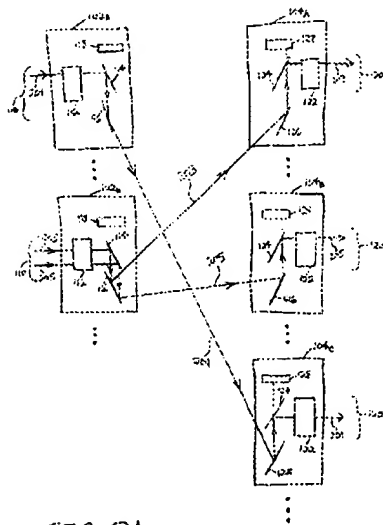


FIG. 3A

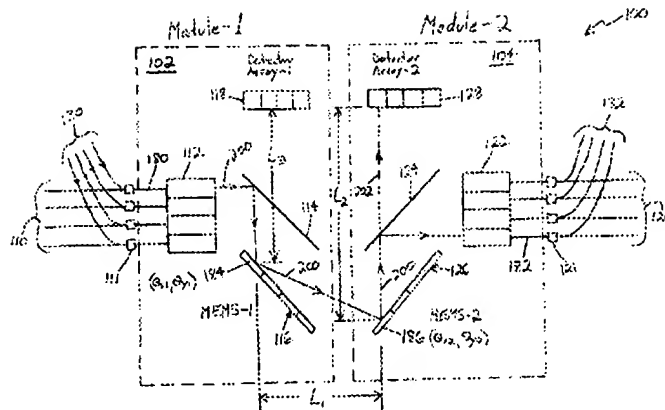


FIG. 2

Regarding claims 21 and 23-25, Ma discloses that the first array deflectors and the second array of deflectors are configured to rotate about a respective first and second axis (col. 3, lines 35-56).

Regarding claim 27, Ma disclose that the N first and second deflector array are stacked (see figure 3A below).

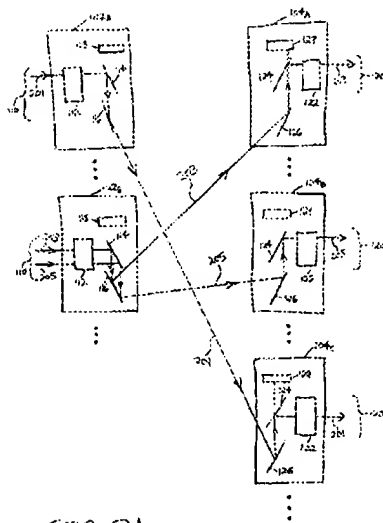


FIG. 3A

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma (6567574) as applied to claims 21 and 23 above, and further in view of Solgaard et al. (6097859).

Ma discloses the claimed invention except for relay lenses as recited in claims 22 and 28. Within the same field of endeavor, Solgaard discloses relay lenses (30, 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the beam steering modules of Ma with relay lenses disclosed by Solgaard for the purpose of individually controlling the spot size of and the spot separation on the switching matrix (col. 4, lines 1-4).

13. Claims 70, 74, 78-80, 83, 84 and 86-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma (6567574) in further view of Dames (US PG Pub 20070042716).

Ma discloses the limitations of claims 70, 74, 78-80, 83, 84 and 86-88, which include a beam steering module (see figures 2 & 3A) comprising: one or more beam steering elements (figure 3A), wherein the one or more beam steering elements (102A, 102B, 104A, 104B or 104C) deflect one or more optical signals in two dimensions (see figure 3, reflection from 114 or 126 (*1st dimension*); and reflection from 116 or 124 (*2nd dimension*)), but Ma does not disclose at least one beam steering module being removable from the switch, as recited in claim 70. Within the field of endeavor, Dames discloses removable modules (see figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the removable modules disclosed by Dames in the

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beam steering module of Ma for the purpose of replacing a faulty module (see Dames para.0058 and 0059).

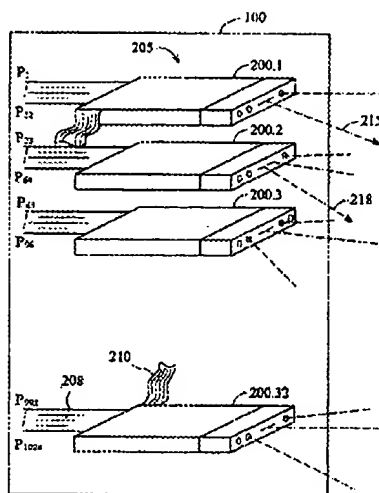


Fig. 3

Allowable Subject Matter

14. Claims 48-54, 56, 57, 59-64, 66 and 118 are allowed.

15. Claims 82, 82, 85, 89, 90, 92-100 and 119 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 15-20, 26 and 29-41 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. The following is an examiner's statement of reasons for allowability: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claim(s), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in claim(s) 15-20, 26, 29-41, 48-54,

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56, 57, 59-64, 66, 82, 82, 85, 89, 90, 92-100, 118 and 119, wherein the claimed invention comprises one of a double-sided array, a first and second array coupled to opposite sides of a frame in staggered configuration, deflector arrays rotate about a first and second axis, and a first and second module arranged in a substantially curved configuration, as claimed. The combination of all the claimed features are not anticipated or made obvious by the prior art and all of said features are relied upon for a determination of allowability.

Response to Arguments

18. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Examiner's Comment

19. Applicant's deletion of the limitation of interoperability renders the scope of the claim broader. Also, since applicant deleted the claimed limitation the addition of the allowable subject matter is of a scope not including the interoperability previously relied upon for a determination of allowability.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-**

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MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricky L. Mack whose telephone number is (571) 272-2333. The examiner can normally be reached on Monday-Friday (6:30 AM to 4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ricky L Mack
Primary Examiner
Art Unit 2873

RM
February 22, 2005